Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Notes Questions for the Unit 3, Part 2 Notes – Community Ecology**

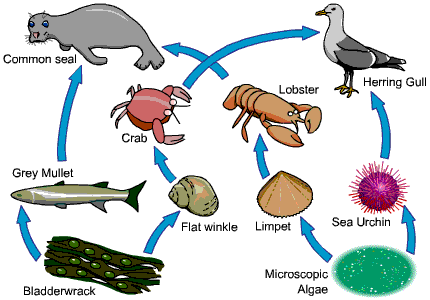
Mrs. Krouse, AP Biology, 2015-2016

***Vocabulary:*** *For each of the terms listed below, fill in the definition given in the notes in the second column. In the third column, I may provide you with a memory trick and/or ask you to break down a term into its parts to better understand its meaning.*

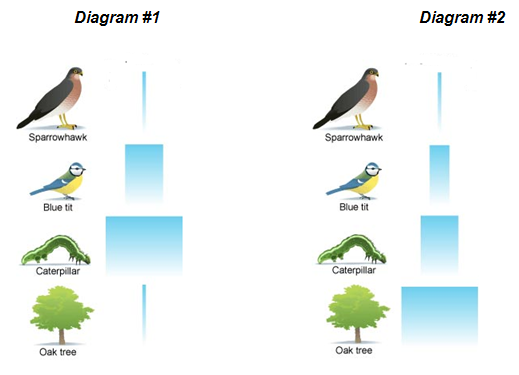
|  |  |  |
| --- | --- | --- |
| **Vocabulary Term and Synonyms** | **Definition(s) Given in the Notes** | **Memory Trick and / or** **Breaking down the Word** |
| Ecological Niche |  | You don’t need to fill in this column for this term ☺ |
| Producer (aka Autotroph) |  | **Breaking Down the Word:** How does “produce” help clarify the meaning of this term? |
| Consumer (aka Heterotroph) |  | **Breaking Down the Word:** How does “consume” help clarify the meaning of this term? |
| Detritivore (aka decomposer) |  | **Breaking Down the Word:** How does “detritus” (from your notes!) help clarify the meaning of this term? |
| Trophic Efficiency |  | **Breaking Down the Word:** How does “trophic” (from your notes!) help clarify the meaning of this term? |
| Gross Primary Production (GPP) |  | You don’t need to fill in this column for this term ☺ |
| Net Primary Production (NPP) |  | You don’t need to fill in this column for this term ☺ |
| Secondary Production (SP) |  | You don’t need to fill in this column for this term ☺ |
| Species Richness |  | You don’t need to fill in this column for this term ☺ |
| Relative Abundance |  | **Breaking Down the Word:** Look up the definition of “relative.” How does it help clarify the meaning of this term? |

***Practice Questions:*** *Answer the following questions thoroughly and accurately in complete sentences.*

1. Explain the difference between the following two terms: fundamental niche and realized niche.
2. Which of the following diagrams best represents the energy transfer relationships within a community—a food chain or a food web? Explain your choice.



1. Identify one organism at each of the following trophic levels in the food web shown to the right—producer, primary consumer, secondary consumer, tertiary consumer.
2. Where might you put a quaternary consumer on the food web to the right? In other words, what is one organism that it might eat?
3. Where might you put a detritivore/decomposer on the food web to the right? In other words, which organisms would it eat?
4. Identify one organism that is both a secondary and tertiary consumer in the food web to the right. Explain your choice.
5. Explain how the extinction of crabs would affect the size of the bladderwrack, flat winkle, and herring gull populations.
6. Why is trophic efficiency so low?
7. Which of the following diagrams is a pyramid of biomass and which is a pyramid of numbers? How do you know?



1. Would you expect a pyramid of energy for this population to look more like Diagram 1 or Diagram 2? Explain yoru answer.

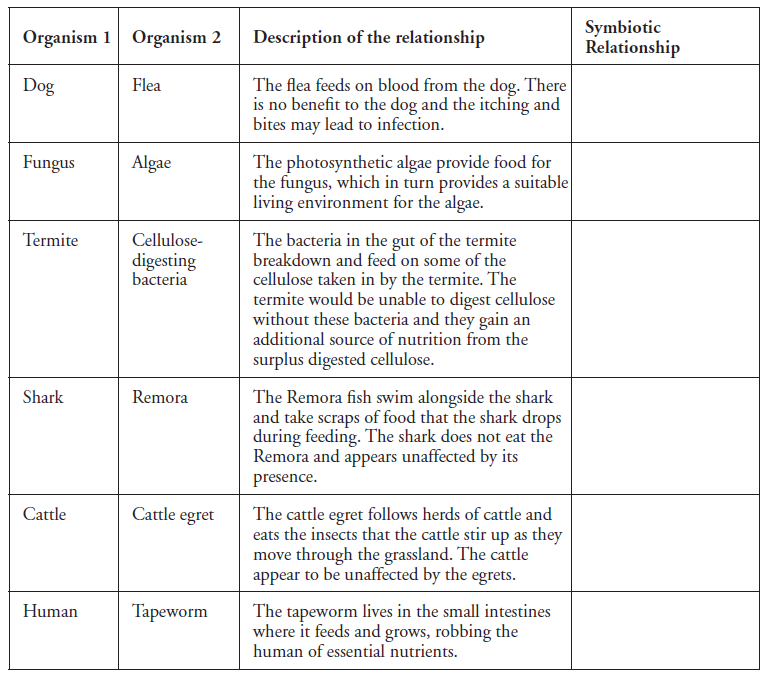
1. Why do oceans have the highest percentage contribution to Earth’s net primary production despite having a relatively low average net primary production (in g/m2/yr)?
2. Based on the information in the chart below, which community has a higher species diversity? Explain your answer using the terms “relative abundance” and “species richness”

|  |  |  |
| --- | --- | --- |
| **Species** | **Community 1** | **Community 2** |
| A | 25% | 20% |
| B | 25% | 20% |
| C | 25% | 20% |
| D | 25% | 20% |
| E | N/A (Species E does not exist for this community) | 20% |

1. Based on the information in the chart below, which community has a higher species diversity? Explain your answer using the terms “relative abundance” and “species richness”

|  |  |  |
| --- | --- | --- |
| **Species** | **Community 1** | **Community 2** |
| A | 1 | 25% |
| B | 26 | 15% |
| C | 2 | 20% |
| D | 70 | 18% |
| E | 1 | 22% |

1. Identify the type of symbiotic relationship described in each scenario given in the chart below.



1. Explain the difference between the following two terms: intraspecific competition and interspecific competition.
2. Describe how the terms “competitive exclusion principle” and “resource partitioning” are related to one another.
3. Explain the difference between the following two terms: dominant species and keystone species.